

## CLAIMS

1. A method for installing a positioning system, the positioning system comprising two or more base stations (BS1 to BS4), the method comprising
  - 5 the steps of:
    - collocating the base stations (BS1 to BS4),
    - quantifying any lack of synchronisation between the clocks of the base stations,
    - relocating one or more of the base stations (BS1, BS2 to BS4) to their fixed, operational positions and measuring the time of flight of a signal from each of the relocated base stations to at least one other base station,
    - determining from the time of flight and quantified lack of synchronisation data the relative separation of the base stations (BS1, BS2' to BS4') and hence the configuration of the installed positioning system, and
    - recording the configuration of the installed positioning system.
2. A method as claimed in claim 1 wherein after the quantifying step, and
  - 20 before the relocating step, the clocks of the base stations (BS1 to BS4) are synchronised.
3. A positioning system comprising:
  - 25 - a plurality of base stations (BS0 to BS6),
  - means for quantifying any lack of synchronisation between the clocks of the base stations (BS0 to BS6) when collocated,
  - means for determining the relative separation of the base stations (BS0 to BS6) when relocated to their fixed, operational positions, and
  - means for recording a configuration of the system defined by the relative separations of the base stations (BS0 to BS6).

4. A positioning system as claimed in claim 3 including a base station (BS0) operable as a location measurement unit (LMU) for E-OTD type positioning.
5. 5. A positioning system as claimed in claims 3 or 4 comprising 3 or more base stations.
6. A positioning system as claimed in claims 3, 4 or 5 comprising 5 or more base stations.

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7. A positioning system as claimed in any of claims 3 to 6 comprising 7 or more base stations.
8. A positioning system as claimed in any of claims 3 to 7 wherein the base stations are removably dockable to each other.

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9. A positioning system as claimed in claim 8 wherein the remaining base stations (BS1 to BS6) are symmetrically, removably dockable about the reference base station (BS0).

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10. A positioning system as claimed in any of claims 3 to 9 wherein the means for quantifying and means for recording are embodied in the reference base station (BS0).
11. A base station (BS0) configured to perform the method of:
  - 25 (i) determining any lack of synchronicity in the clocks of a plurality of base stations (BS1 to BS6) when collocated with those base stations in a first position; and either:
    - 30 (ii) after relocating one or more of the base stations, determining the relative position of the base stations from range measurements taken between the base stations after relocation and the lack of synchronicity determined in step (i)

or :

5 (iii) after synchronisation the base stations and subsequently relocating of one or more of the base stations, determining the relative position of the base stations from range measurements taken between the base stations after relocation.